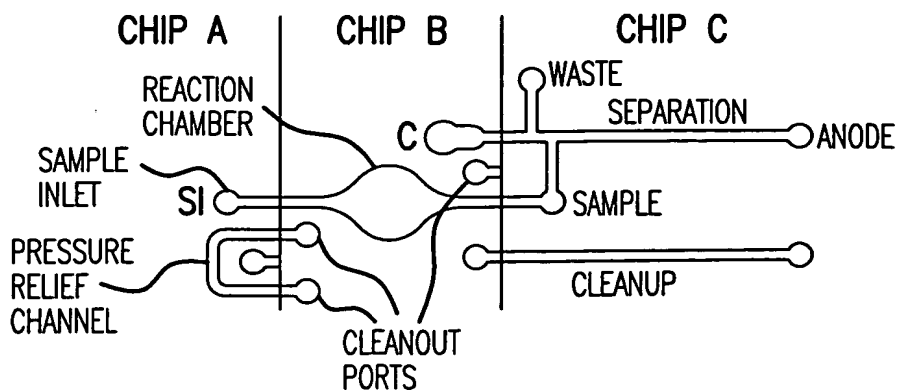
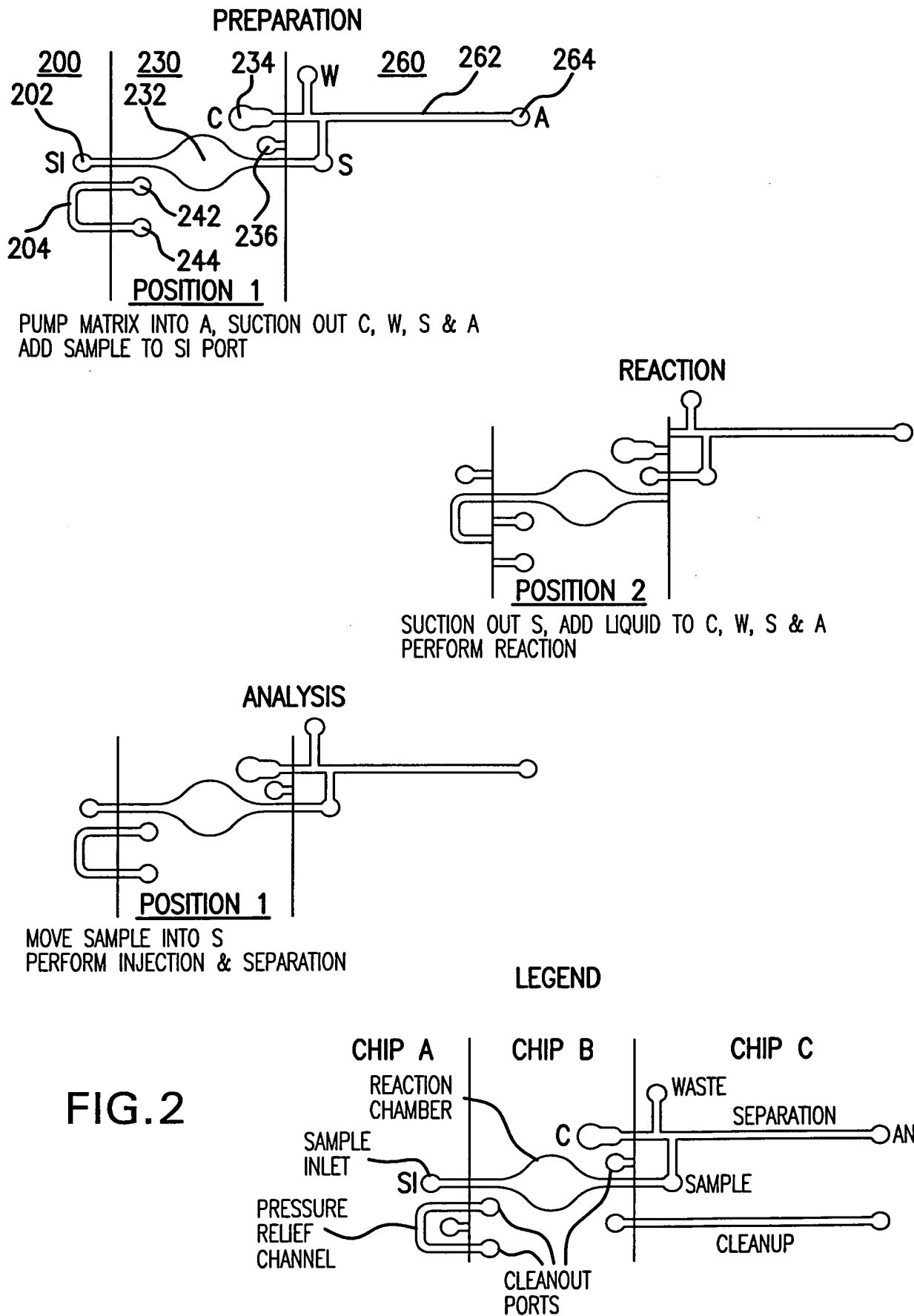
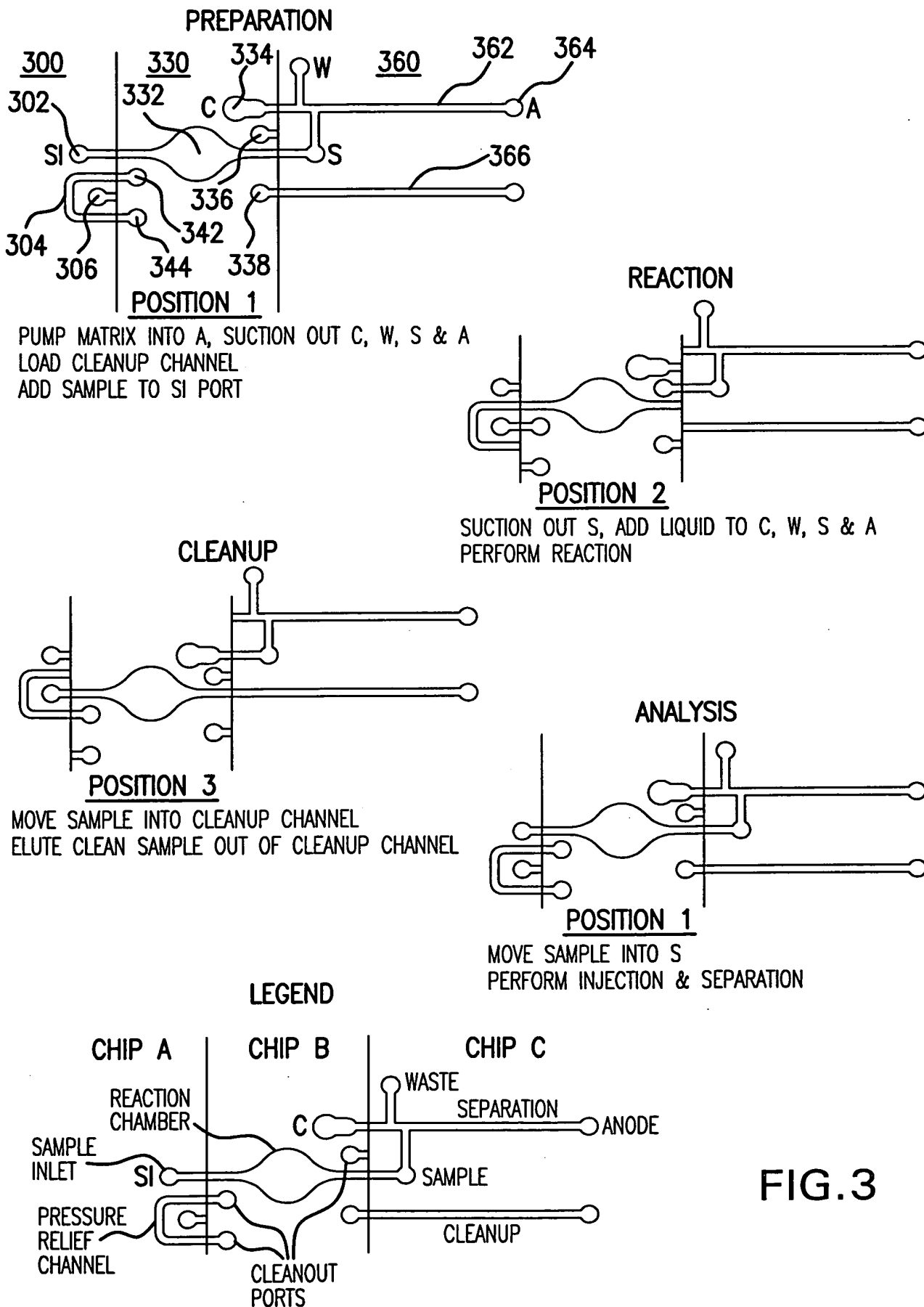


**LEGEND**

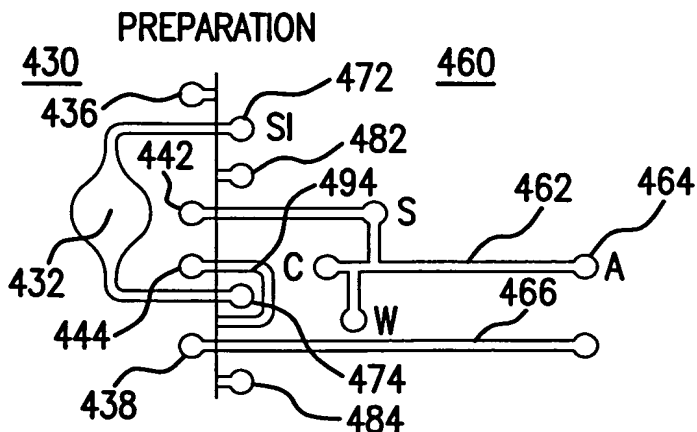
**FIG. 1**



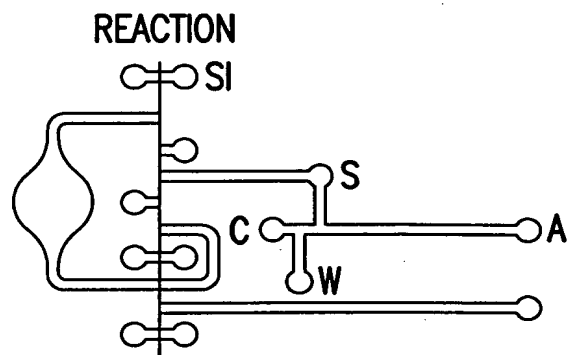




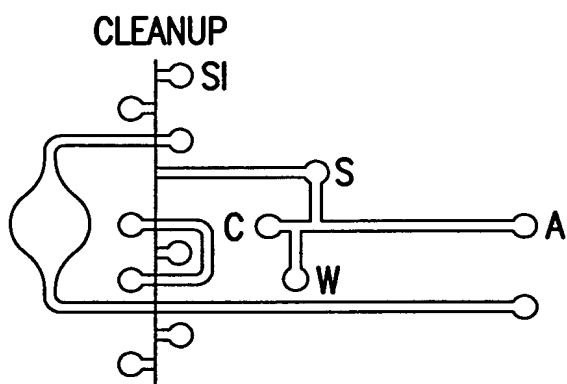
**FIG.3**



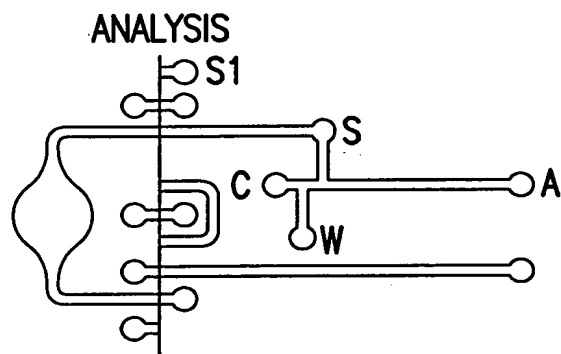
**POSITION 1**  
 PUMP MATRIX INTO A, SUCTION OUT C, W, S & A  
 ADD CLEANUP MEDIA  
 ADD SAMPLE TO SI PORT



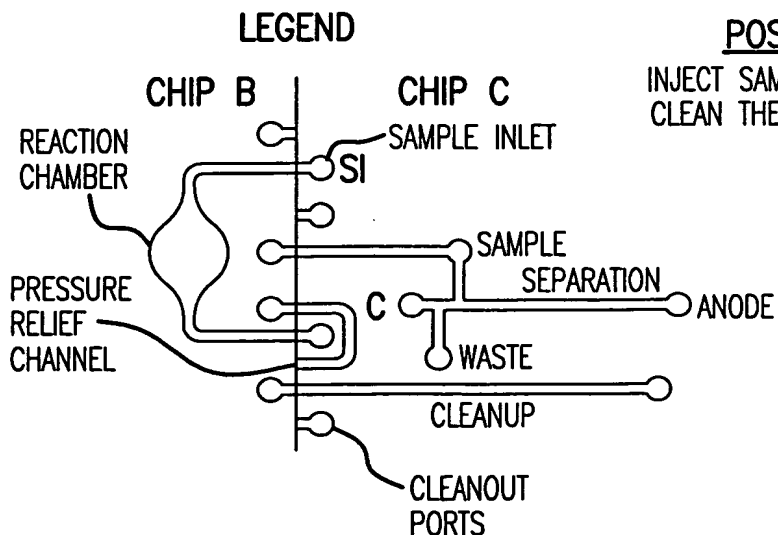
**POSITION 2**  
 ADD LIQUID TO C, W, S & A  
 PERFORM REACTION  
 CLEAN SI CHANNEL



**POSITION 3**  
 MOVE SAMPLE INTO CLEANUP CHANNEL  
 ELUTE CLEAN SAMPLE BACK INTO REACTION CHAMBER  
 CLEAN PRESSURE RELIEF CHANNEL



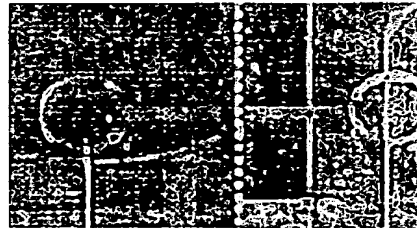
**POSITION 4**  
 INJECT SAMPLE, PERFORM SEPARATION  
 CLEAN THE REST OF THE CHIP



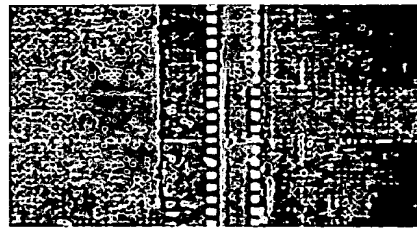
**FIG.4**



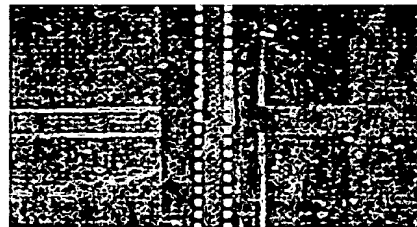
Position 1A



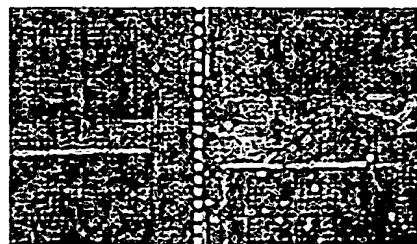
Position 1B



Position 1C



Position 1D



Position 2

FIG.5

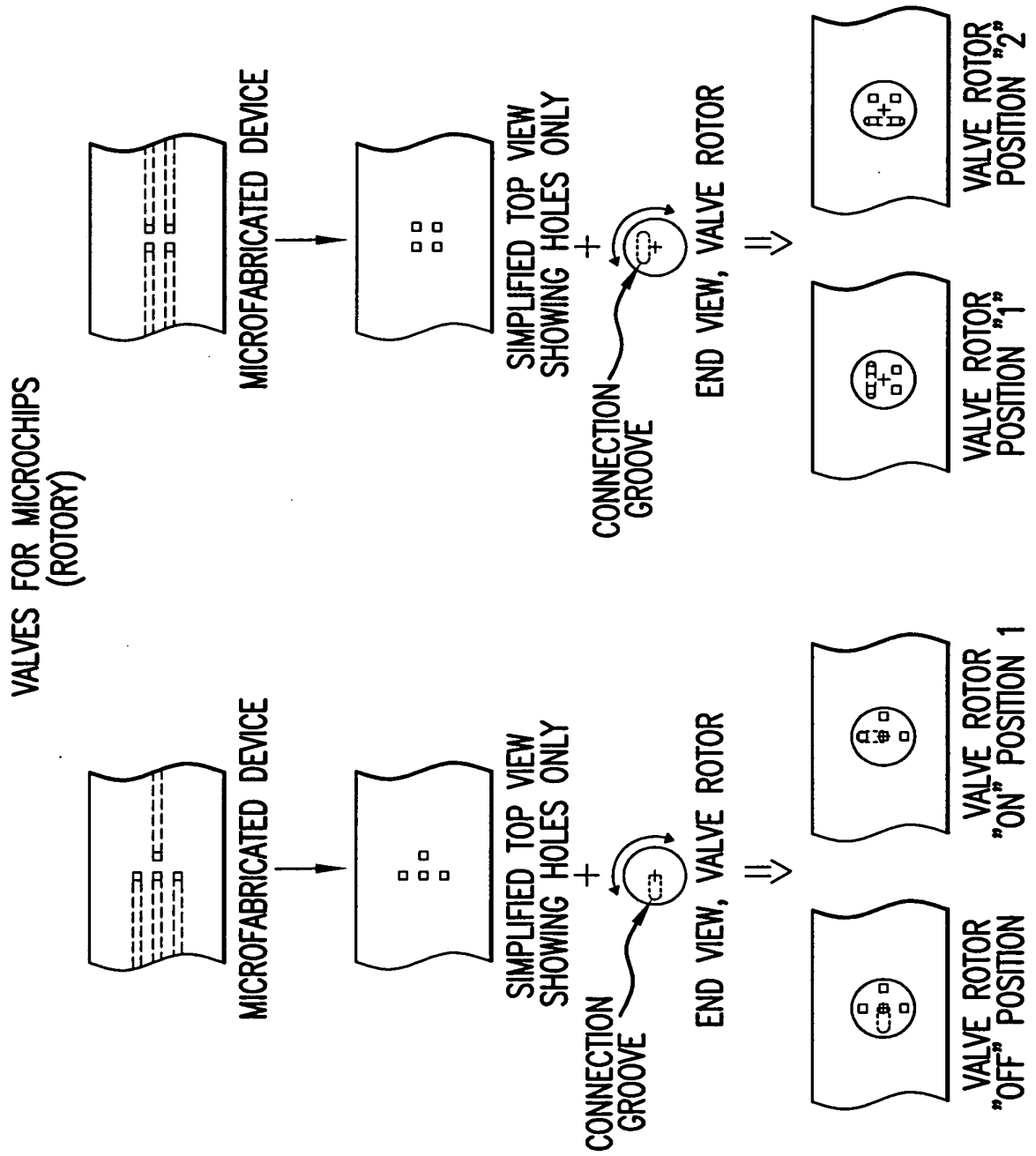


FIG.6A

FIG.6B

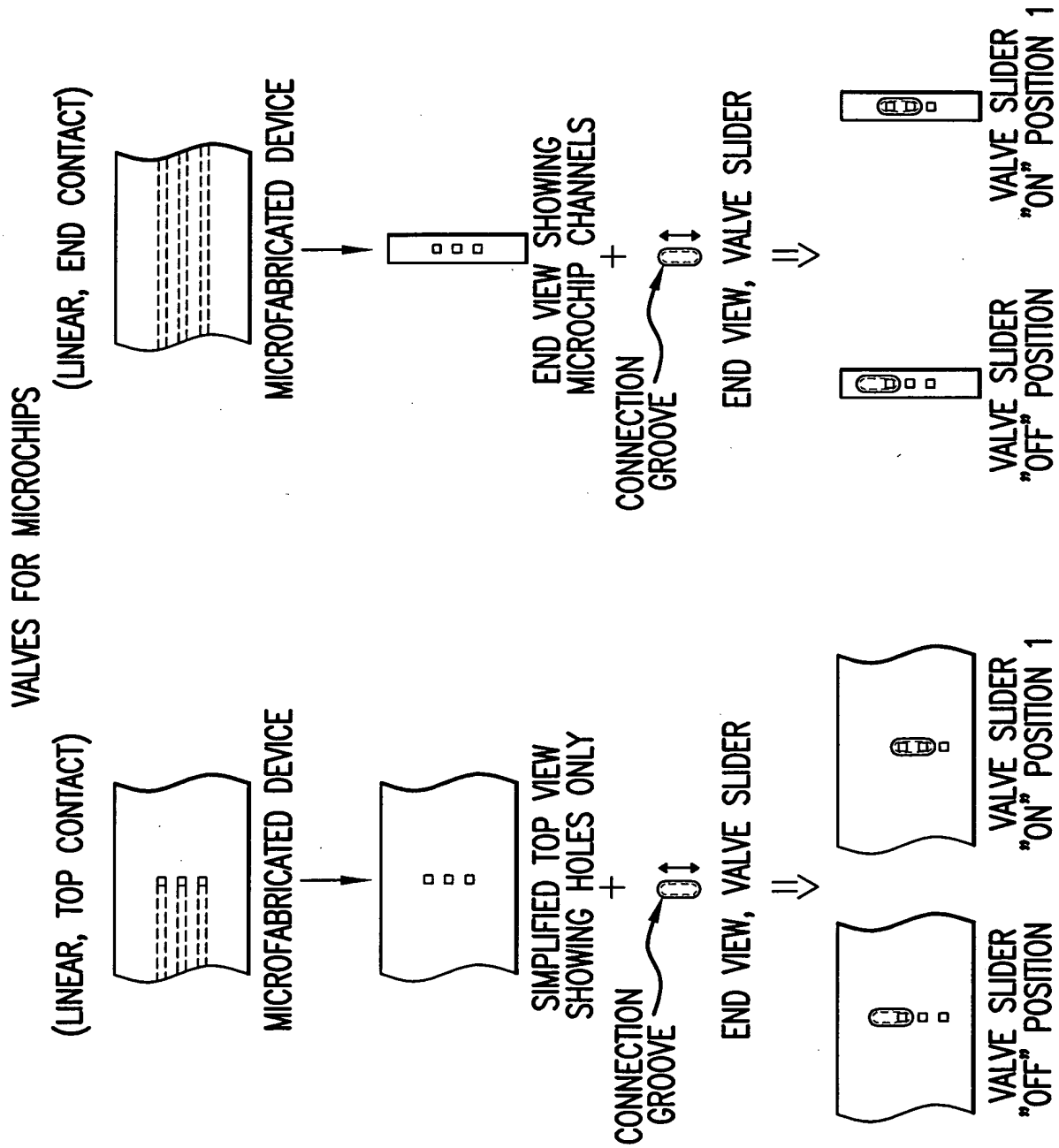


FIG.6C

FIG.6D

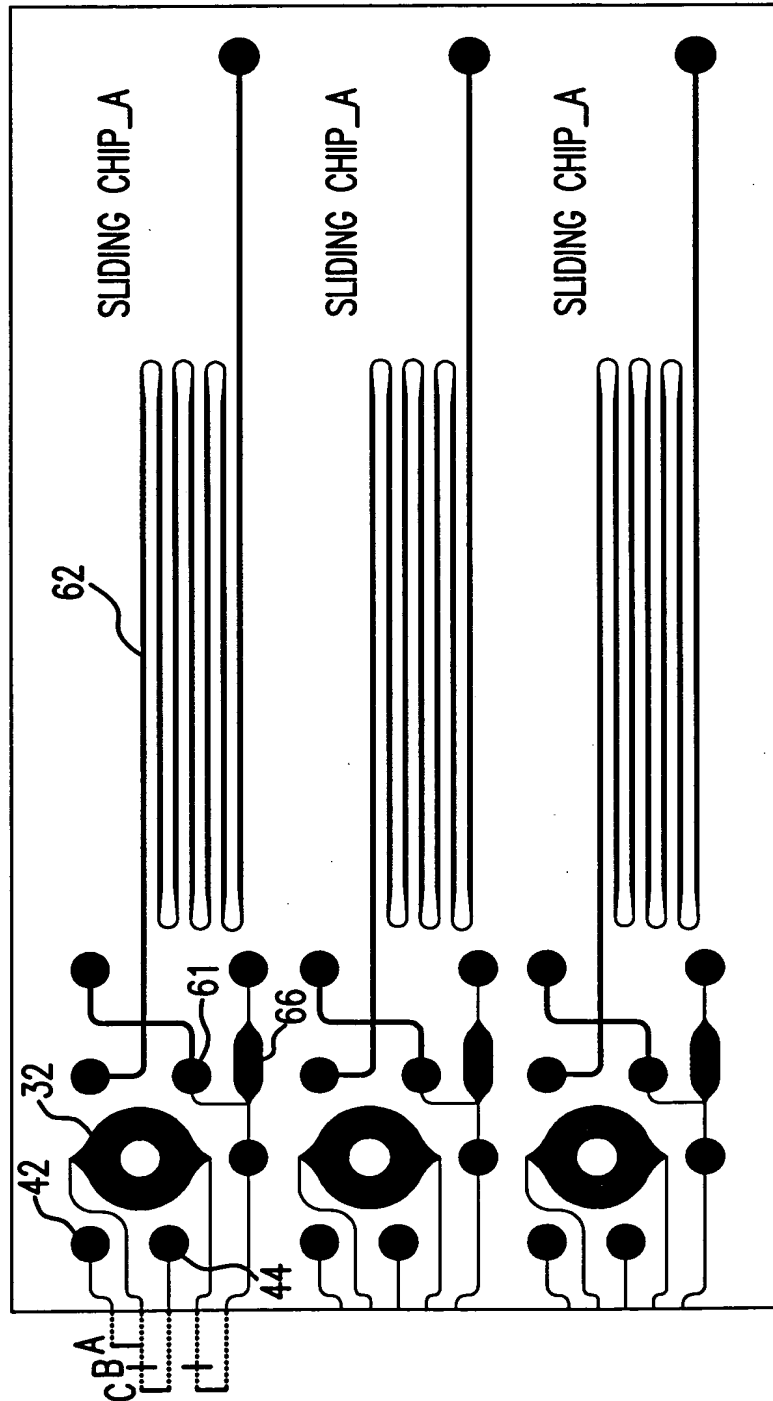


FIG. 7A



FABRICATION VERY SMALL, HIGH ASPECT RATIO HOLES IN GLASS

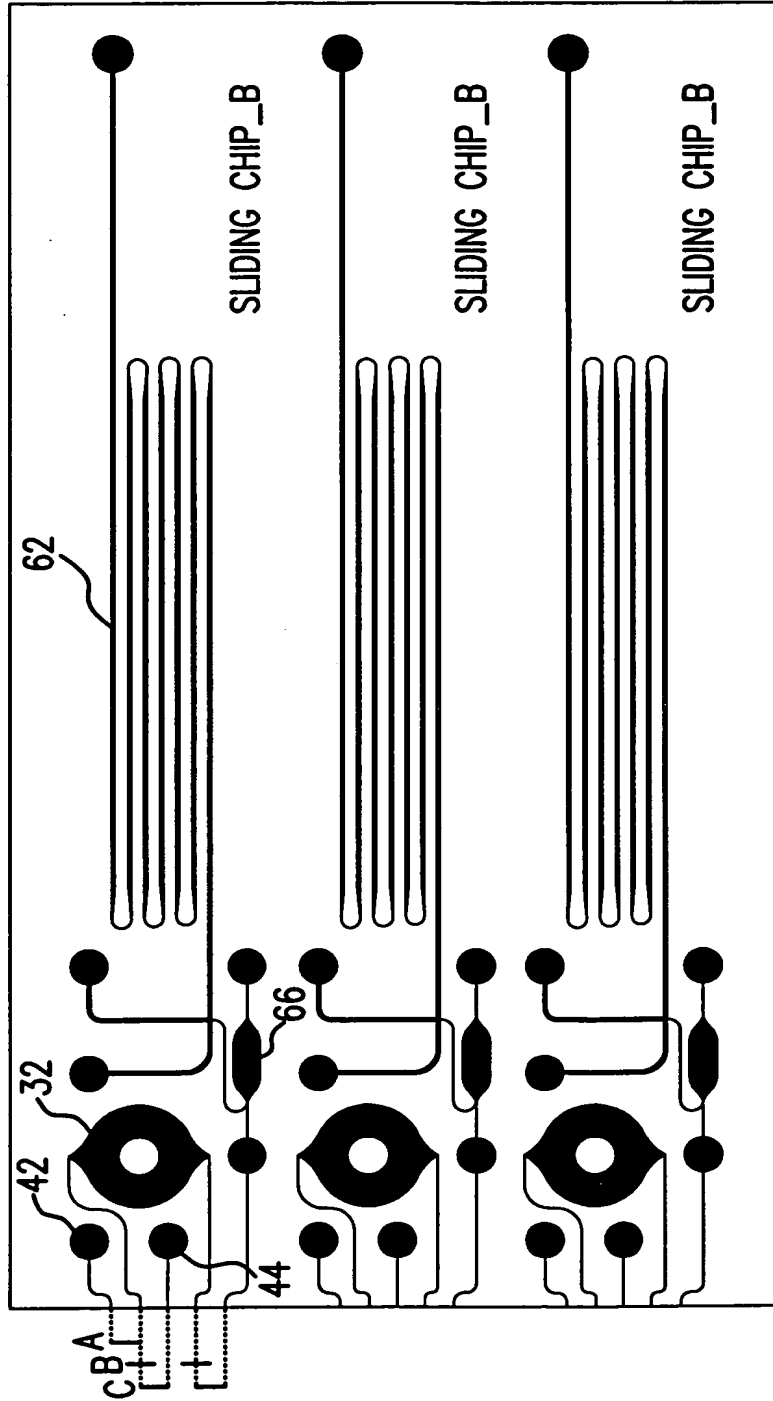


FIG. 7B

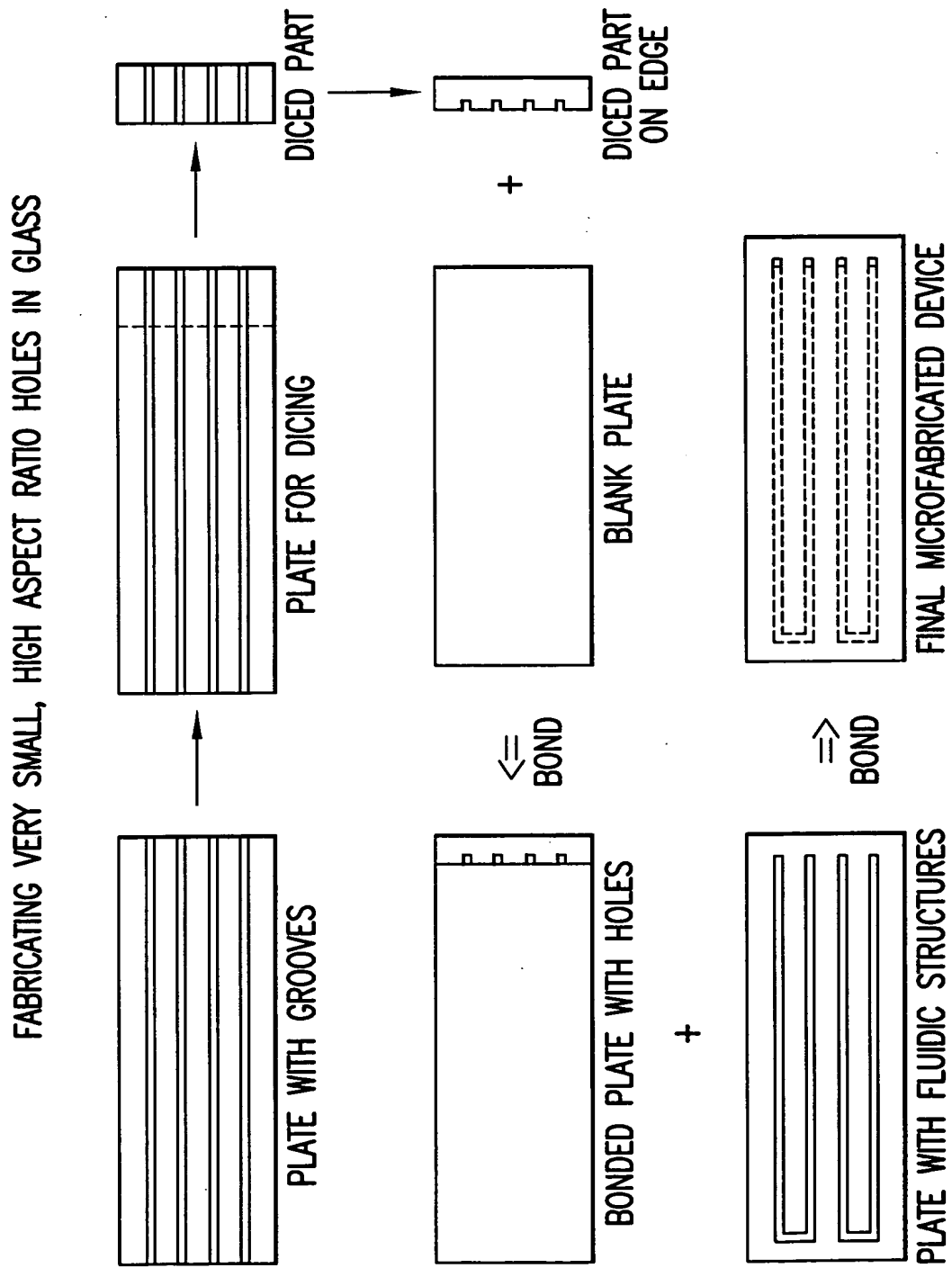


FIG.8